LOCK OUT TAG OUT PROCEDURE

INTRODUCTION

This policy establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is being performed on Turtle Mountain School Divisions (The Division) machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and is locked out before employees perform any servicing or maintenance where unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

DEFINITIONS

Affected Employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout; or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized Employee: A person who has been properly trained in the lockout of machines or equipment in order to perform servicing or maintenance on that machine or equipment, an affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Electrical Energy: The electric potential and force capable of being delivered or generated by systems or equipment. This energy must be isolated or disconnected from the equipment or system before service.

Energy: The electrical and non-electrical (compressed gas, steam, chemical, hydraulic, tensioned spring, elevated object, rotating equipment, hazardous substance, etc) energy that has potential and force capable of being delivered or generated by systems or equipment. This energy must be isolated or disconnected from the equipment or system before service may begin.

Energy Isolation Device: A mechanical device which physically prevents the transmission or release of an energy source to machinery or equipment.

Lockout: A condition where the energy source of equipment or a system has been disconnected or isolated in the "OFF" or "de-energized" position. Each worker involved in the service applies their own individual lock and completed lockout tag, which may only be removed by the owner of the lock and tag.

Lockout Tag: The use of an identification tag placed on the personal safety lock identifying the person working on the machine/equipment and warning others not to start up the machine/ equipment.

Mechanical Energy: Any non-electrical source of energy such as compressed gas, steam, chemical, hydraulic, tensioned spring, elevated object, rotating object, hazardous substance, etc. which could release or move, and put at risk staff, patients, visitors, or facilities.

Personal Safety Lock: A lock provided by the employer for use by a single worker to ensure personal lockout protection such that each lock when applied is operable only by a key in the worker's possession and by the site Maintenance Supervisor.

Service: The work performed in connection with the placing, installing, maintaining, repairing, replacing, or removing of any system or equipment containing or connected to electrical and non-electrical energy.

Tryout: The practice of attempting to start up a locked out, tagged out piece of machinery or equipment to ensure de-energization has occurred; and to dislodge any remaining energy.

SCOPE

This procedure applies to any authorized employee, volunteer, student or external contractor who is involved with the servicing and maintenance of machines and equipment, in which the **unexpected** energization or startup of the machines or equipment, or release of stored energy could cause injury to employees or others.

RESPONSIBILITY

The Division site Supervisor is responsible for providing all necessary equipment to conduct a lockout procedure safely. This will include but not be limited to personal safety locks for each authorized employee, energy isolation devices for various applications, lockout tags, etc.

Authorized employees are responsible for following lockout/tryout procedures whenever repairs, coordinated maintenance, or any other service where inertial, kinetic, or potential energy that would cause injury if released is present. At no time will they attempt to operate a machine or equipment which is in a lockout state.

External contractors are responsible for following this procedure while performing related work on the Divisions premises. Should the practices of the external contractor conflict with The Divisions practice, the more stringent policy or practice shall prevail.

PROCEDURE

1. Pre-Lockout/Tryout:

1.1 Inspect the equipment to locate and identify all isolating devices to be certain which switch(s), valve(s), or other energy isolating devices apply to the equipment to be locked out. More than one energy source (electrical, mechanical, stored energy, or others) may be involved.

1.2 Notify the affected employee(s) that a lockout situation will be occurring, as well as the extent and expected duration of the service disruption.

2. Sequence of Lockout System:

2.1 Disconnect major electrical equipment from their source(s). Do not use the electrical disconnect switch to turn off any running equipment. Use the start/stop or local control switch for the machine to stop the equipment. Visually ensure that the machine is no longer operating. Then, open the disconnect switch closest to the equipment or system and apply a lockout with a personal lockout tag.

2.1.1 Where the equipment is stationary or will be maintained in place and utilizes any form of electrical plug, disconnect the plug, "lockout" the male end of the plug using an energy isolation device, personal safety lock, and attach the personal lockout tag.

2.1.2 Where the equipment or device is supplied power from an electrical circuit breaker panel, determine the correct breaker and switch it off. Lock out the individual breaker using an energy isolation device. In situations where locking out the individual breaker impedes the locking of the panel door, leaving active breakers vulnerable to tampering, the authorized employee may simply shut off the breaker and tag it using the lockout tag. The lockout tag must be mounted to the breaker and the panel door must be locked. The lockout tag must be kept inside the locked panel to ensure it is not removed by others.

2.1.3 Where equipment or devices are supplied from thermal, fluid, or pneumatic energy through a pipe, tube duct, or similar system, the energy and substance shall be restrained using an appropriate lockout system. Use a chain, cable, "V safe" cap, etc. to lockout valves, dampers, etc.

2.1.4 Where equipment or devices contain inertial (in motion) mechanical energy, such as rotating equipment, lockout all driving energy sources and controls appropriately (mechanical and electrical).

2.1.5 Where equipment or devices contain potential mechanical energy, such as from unsecured elevated devices, spring-loaded devices, and lockout and secure the area as well as stabilizing and restraining forces.

2.2 Authorized employee(s) placing a personal safety lock in a lockout situation shall complete a lockout tag filling in all spaces except for sections labeled "REMOVED BY" and "DATE". Detail is required within the section labeled "REASON FOR TAG". This completed tag will be securely attached to their personal safety lock and energy isolation device.

2.3 After applying a lockout device, test the effectiveness of the lockout by operating the switch, valve, or other controls to ensure a successful lockout has been achieved. Stored energy (such as springs, elevated machine members, rotating flywheels, hydraulic systems,

and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.

CAUTION: Return the operating control(s) to neutral or "off" position after the test. It is the responsibility of the first authorized employee who attaches their personal safety lock to conduct the initial effectiveness test to ensure the proper lockout is achieved.

2.4 The machine or equipment is now locked out.

2.5 Authorized employee(s) performing service(s) shall work under the protection of a lockout situation. Prior to commencing the work, the authorized employee will personally lockout the hazard with their personal safety lock and a completed personal lockout tag to be placed at each appropriate isolation point(s). Upon completion of the work, each authorized employee shall remove their personal safety lock and lockout tag.

2.6 When a job requires a multi disciplinary trades team of contracted, authorized employees, the team will designate a project lead that will ensure every applicable energy source is locked out. This does NOT preclude any individual involved in that job from applying their own personal safety lock and personal lockout tag to each energy source, unless a group lockout has been established.

2.7 Each lockout situation includes the installation of a completed personal lockout tag. The lockout tag identifies the authorized employee involved in the lockout, and states the reason for the lockout so that all other staff members and affected employees are aware.

2.8 The authorized employee applying the first safety lock in a lockout situation shall test the effectiveness of the lockout and energy isolation device(s), and drain any residual energy by attempting to activate the equipment or machine.

2.9 Safety locks shall be operable only by Maintenance staff. The lock inventory will be maintained by the Health and Safety Officer or Designate.

2.10 Staff shall report any lost or stolen locks or keys immediately to their supervisor. Locks affected by lost keys shall be replaced immediately.

2.11 Contractors working on or connecting to existing Turtle Mountain School Division systems shall work with authorized employees in following this lockout policy and procedure.

2.12 The contractor is to coordinate all such work through the Division Maintenance Supervisor to ensure the proper precautions are taken.

3. Restoring Machines or Equipment to Normal Operations:

3.1 The removal of the last personal safety lock from a lockout situation is a serious responsibility. Before removing the last personal safety lock, the authorized employee will

ensure that no other individual is at risk, all safe guards are present, and that the equipment or system can be operated safely.

3.2 It is forbidden to remove another authorized employee's lockout device, except as outlined within this policy. Any employee, volunteer, or contracted employee that removes a safeguard for any reason without the permission and supervision of the Supervisor whom installed the lock may be subject to disciplinary action.

3.3 In an emergency situation, if staff are not available to remove their lockout and cannot be contacted, the Maintenance Supervisor may personally remove the lockout situation. The removal of the lockout shall be done in the accompaniment of another supervisor/ manager, or in the accompaniment of a journeyman of the trade the lockout is under.

3.4 The Maintenance Supervisor and accompanying supervisor/manager removing the lockout are directly responsible to ensure that staff, persons, and/or school are not put at risk; and that the equipment or system can be operated safely. The Maintenance Supervisor shall complete the "REMOVED BY" and "DATE" sections on the lockout tag, and return the completed tag and personal safety lock to the affected staff member as soon as possible.

3.5 When authorized employee(s) have completed their service, and before their lock is to be removed, the authorized employee shall ensure that all components for which they are responsible have been properly installed. Ensure that guards and safety devices are in place, and equipment is free of incomplete work (e.g. open lines, obstructions, and other unnecessary items).

3.6 Authorized employee(s) shall only remove their personal lock, energy isolation device, and personal lockout tag from a lockout situation when they have successfully completed their service, and have ensured it is safe to put the system or equipment back into service. At this point the lockout tag "REMOVED BY" and "DATE" section will be completed and submitted to the authorized employee's home department for retention. Tags will be stored for one year.

Affected and authorized employees are <u>never</u> to remove another employee's lock unless under the conditions as set out in procedure statement 3.3.

3.7 After the servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that non-essential items have been removed, that all employees are safely positioned or removed from the area, and that the machine controls are in neutral or "off" position.

3.8 The staff member removing the last safety lock from a lockout situation shall ensure that affected employees are familiar with and have completed all the necessary start up procedures, including safety checks.

3.9 Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

4. Contractor Lockout/Tryout:

4.1 Contractors working on or connecting to existing Division systems shall work with authorized employee(s) trained in lockout/tryout; and will perform lockout/try out operations as per this policy and procedure. The Contractor is to coordinate all such work through the Maintenance Supervisor or designate to ensure the proper precautions are taken.

4.2 Authorized employee(s) shall perform the lockout using their personal safety lock(s) and shall complete a lockout tag for the service shutdown.

4.3 The Contractor shall place their lock on the energy isolation device indicating contractor activity under the lockout situation.

4.4 Authorized employee(s) and contractor(s) shall only remove their personal safety lock, energy isolation device, and personal lockout tag from a lockout situation when they have successfully completed their service. At this point the personal lockout tag "REMOVED BY" and "DATE" section will be completed and sent to the authorized employee's home department for retention. Tags will be stored for one year.

Affected and authorized employees are <u>never</u> to remove another employee's lock unless under the conditions as set out in procedure statement 3.3.

4.5 Authorized employee(s) and contractor(s) shall ensure that all components for which they are responsible have been properly installed, and ensure that guards and safety devices are in place, and equipment is free of incomplete work (e.g. open lines, obstructions, and other unnecessary items).

5. Temporary Removal of Lockout Devices:

5.1 In situations in which a safety lock or lockout tag must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment, or component thereof, the following sequence of actions will be followed:

5.1.1 Clear the machine or equipment of all non-essential items and materials, and ensure that machine or equipment components are operationally intact. **Ensure that the machine or equipment controls are in neutral or "off" position.**
5.1.2 Notify affected employees that lockout devices have been removed, and ensure that all employees have been safely positioned or removed from the area.
5.1.3 Each lockout device shall be removed from each energy-isolating device by the authorized employee who applied the device. **If the employee is unavailable, follow procedures as set out in procedure statement 3.3.**
5.1.4 Energize and proceed with testing or positioning.
5.1.5 De-energize all systems and reapply energy control measures in accordance with section 2 of this procedure to continue the servicing and/or maintenance.